



WE'VE COME  
A LONG WAY...

BUT WE'RE JUST  
GETTING STARTED.



**FALL 2012**  
**HEALTH & SAFETY**  
**REPORT**

FOREVER FORWARD.  
FOREVER FOOTBALL.



# toc

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# Foreword



We continue to make significant strides in promoting a culture of safety for NFL players and, through our leadership, for football players and other athletes at all levels.

Our focus is on the total health of athletes – from when they start playing the game as youngsters through their entry and participation in our league to their transition out of the game. We also know that what we do sets an example for all sports and can have a very positive impact.

We are guided by a few simple principles:

- **Leadership.** We are not waiting on science to tell us the answers. We will continue to make rule changes, provide the best equipment, and give our medical staffs the tools to protect player health and safety and make our game as safe as possible.
- **Research.** We will fund pioneering medical research to help scientists and doctors find the breakthroughs that will benefit all athletes. Putting this principle into action, we recently announced a \$30 million unrestricted grant to the Foundation for the National Institutes of Health to accelerate the pace of discovery in topics directly related to player health and safety.
- **Advocacy.** We will continue to emphasize awareness and education and to fight for legislation that better protects youth athletes from the potential consequences of head injuries. Safer sports means better sports for our young people.
- **Transparency.** It is important that we continue to share our information with the broadest possible audience because the potential benefits go well beyond the game of football.
- **Partnerships.** We will continue to work with leading organizations in the health sciences and sporting industries to support research and drive innovation to enhance the safety of players at all levels of the game.

Why is this such an important priority? We want our players to have long, successful careers so that fans can enjoy their extraordinary talent. Equally important is that we want our players to be successful in their lives off the field and after they leave the game. We also want to continue our tradition of leadership in sports to promote safe and fair play at all levels.

The resources available to support player health and safety continue to evolve and improve. We want you to know about all of our initiatives and welcome your ideas. This is a total team effort and we will not relent.

On behalf of everyone in the NFL, thank you to the many individuals and institutions that are not only contributing to making our sport safer, but also having a deeply positive impact on all of sports and wellness.

Roger Goodell  
NFL Commissioner

# Welcome to the Fall 2012 NFL Health & Safety Report



Distinguished researchers, medical professionals, including a MacArthur Genius Grant winner, and neurosurgeons at the top of their field are all a part of NFL University, the term I use to describe the network of medical resources devoted to making football and other sports safer at all levels. From helmet research to injury tracking, rule changes to cutting-edge medical studies, NFL University is hard at work every day.

The NFL not only has a long-standing commitment to the health and well-being of its players, but also to players active in collegiate, high school and youth programs. While this report is new, the NFL's commitment to health and safety is not. For nearly forty years, the NFL has funded a wide range of research through NFL Charities, various medical committees and joint efforts like the Partnership for Clean Competition. In the last few years, we have committed nearly \$22 million to a wide range of research to improve player health and safety. Our new collective bargaining agreement takes this commitment one step further with plans to invest more than \$100 million over the next 10 years in medical research. On September 5, 2012, the NFL announced a \$30 million unrestricted grant to the Foundation for the National Institutes of Health to advance medical research, the single-largest donation to any organization in the league's 92-year history. In the last year the NFL also changed kickoff rules, resulting in a 40 percent reduction in concussions on kickoffs; and continued to improve in-game procedures, introducing enhanced concussion protocols and adding sideline video monitors for reviewing and treating injuries.

The league also continues to support former players with programs that provide them with financial assistance to meet their medical needs. This includes the 88 Plan, which helps support former players struggling with dementia, amyotrophic lateral sclerosis (ALS) or Lou Gehrig's disease, Parkinson's disease, and Alzheimer's disease, and the NFL Player Care Foundation, which addresses a variety of medical needs.

The NFL recognizes the importance of helping to improve safety in all sports, which is why it has been active in advocating for youth concussion laws in every state. These laws better protect young athletes in all sports with respect to concussions and return to play. They require that parents, coaches and players learn about concussions and that a player who has suffered a concussion cannot return to play or practice until he or she is cleared by a medical professional. Currently, 40 states and Washington, D.C., have passed youth concussion laws, many with the support of the NFL.

As chairman of the newly created NFL Owners Committee on Health and Safety, I take pride in NFL University, and all that we have accomplished so far. We have more to do — advancing research, continuing partnerships with organizations like USA Football and the Centers for Disease Control and Prevention, creating new relationships and supporting continued improvement in injury prevention and treatment. We look forward to providing players and fans with a game that is as safe as possible and even more exciting and fun in the years to come.

John York, M.D.  
Co-Chairman, San Francisco 49ers  
Chairman, NFL Owners Committee on Health and Safety



# Executive Summary



The 2012 NFL Health and Safety Report offers an up-to-date summary of the programs and initiatives in place **today** to protect and enhance the health and safety of players; a look forward to **tomorrow**; and an acknowledgement of the many partners who work **together** with the NFL on these programs.

The goal of this and future reports is simple: provide those who care passionately about the game of football and its players with a comprehensive look at the league's health and safety efforts, and illuminate where important progress has been made in the past year — and where further improvements can be made.

The key pillars of the NFL's player health and safety program that are detailed in this report include:

## **I. Health and Safety Culture:**

Advancing a culture wherein the health and safety of players is paramount requires much more than just a set of game rules. It requires ongoing education, dialogue and monitoring. It requires constant assessment and consistent reinforcement of policies. And it requires an unstinting commitment to everyone involved in the game — players, coaches, administration, medical staffs and the NFL Players Association.

The combination of these efforts, in conjunction with league-wide rule changes and safety equipment updates as outlined in this report, have measurably improved player health and safety. There is perhaps no better recent illustration of the league's commitment to health and safety than in the area of concussions. The NFL has taken considerable steps to reduce both the occurrence and health impacts of head injury, including concussions.

In 2011, the league continued these efforts by updating rules and enforcement policies meant to reduce head injuries, and by educating players about what to do if they experience concussion-related symptoms through

educational videos, and a fact sheet and poster distributed to all teams, and presentations from the officiating department. The league also added further enhancements to its in-game concussion-related policies, instituting a new tool for sideline concussion evaluations, and more. The NFL also continued to promote safe play at all levels of football, working closely with the Centers for Disease Control and Prevention, USA Football and other leading organizations to educate young athletes, their parents and coaches about the importance of head injury awareness.

**II. Advocacy:** The NFL recognizes and takes very seriously its role in encouraging health and safety awareness and action at all levels of football and in youth sports. As part of this commitment, the NFL is a passionate advocate for the passage of youth concussion laws in every state. As of September 2012, 40 states and the District of Columbia have youth concussion laws, and the league is committed to supporting passage in all 50 states.

**III. Safety Rules:** The NFL's efforts to improve the safety of the game through rule enhancements extend back to its formation nearly a century ago. Prior to the start of the 2011 season, the NFL Competition Committee enacted four more rule changes to provide additional protections to players. One of the most notable rule changes — the move in the restraining line for the kicking team from the 30- to the 35-yard line — contributed to a 40 percent reduction in the number of concussions occurring during kickoffs when compared to the previous season.

**IV. Research:** The NFL has a long-standing commitment to fund important research into new and better ways to protect players at all levels of the game, and to drive new discoveries to improve player health. The engine of this effort is NFL Charities, a nonprofit organization created by the 32 member clubs of the National Football League, which has funded nearly \$22 million in medical research grants in the areas of sports

injury prevention and treatment. These grants support research conducted at some of the country's most prestigious institutions, including the Cleveland Clinic, Johns Hopkins University and Massachusetts General Hospital. In 2012, the NFL took this commitment to greater heights with a grant of \$30 million for medical research to the Foundation for the National Institutes of Health.

**V. Equipment:** Correctly using the latest in protective safety equipment is one of the fundamental ways to help prevent injuries. The NFL's Head, Neck and Spine (HNS) Committee and its Subcommittee on Safety Equipment and Playing Rules, comprised of experts in the fields of medicine and sports science, identify trends in injuries and develop recommendations for enhancing playing equipment. In the last year, the committees have been focused on supporting research to identify improvements to equipment that can provide additional protection to the head and neck as well as the feet and ankles of players. The HNS Committee is currently studying the use of accelerometers for a pilot program that will collect head impact data to better understand the amount and types of hits players sustain.

The programs and initiatives in this report represent the work and dedication of hundreds of individuals, including volunteer members of NFL medical committees, team doctors and trainers, and many of the best minds from the scientific and medical communities.

The NFL and its teams would like to extend their deep gratitude to the men and women whose efforts are detailed in this report and to all those who are committed to a safer playing environment in the NFL, college and youth football — and all sports.

# TODAY

The NFL continually strives to improve the health and safety of all those who play the sport, from youth players to current and former NFL players. This commitment includes continuous enhancements to player safety rules, support of community outreach programs to provide health and safety resources to all athletes and their communities, and support for legislation that protects young athletes — all of which contributes to a culture focused on doing everything the NFL can **today** to create an even better, healthier and safer **tomorrow**.

# HEALTH AND SAFETY CULTURE

**The NFL has made health and safety an integral part of the culture of football, and a vital component of the game itself. The NFL is proud to use its reach and influence to spread this culture beyond our game, through partnerships with leading institutions, programs reaching youth, and research that can improve lives well beyond the playing field.**

**The NFL's health and safety efforts are guided and supported by many leading research and medical professionals. The league's commitment to protecting players is demonstrated through player education, policies and a variety of health and safety programs. NFL culture continues to evolve and advance along with the sport, informed by experience, improved understanding and the latest scientific and technological discoveries.**

## The Culture of Leadership

Support for health and safety at the NFL spans all levels of the organization, from the commissioner's office, to the players on the field, to the club owners, to the coaching and medical staffs on every team. In addition, the NFL has gathered independent experts with relevant medical expertise to consult, conduct research, gather and analyze NFL injury data, and provide recommendations for improving player health and safety. These experts participate in committees and panels focused on specific health and safety topics, as well as consult directly for individual clubs. They are affiliated with some of the most prestigious academic, research and medical institutes across the country.

NFL medical consultants are affiliated with top-tier organizations around the country including:



Through regular committee meetings and annual events, these medical experts exchange knowledge and key learnings, and recommend specific actions where needed. One such gathering is the annual meeting of the NFL Physicians Society (NFLPS). The NFLPS was formed in 1966 as a way for team physicians to share information and collaborate on solutions to common injuries and health matters of NFL players. The NFLPS has grown to more than 130 members representing the 32 clubs of the NFL, and is led by President Anthony Yates, M.D., FACP, Co-Director of the University of Pittsburgh Medical Center Corporate Health Program and Head Team Physician for the Pittsburgh Steelers. Members of the NFLPS gather annually during the NFL Combine to address issues common to the membership such as orthopaedic injury, heat and hydration issues, controlling substance abuse problems among players, other medical concerns, and helping to develop effective health and safety policies for NFL players.



# Sharing Culture through Education

Educating NFL players about the importance of protecting themselves and other players on the field is a critical part of building a health and safety-focused culture. From rule changes to playing equipment updates, the NFL educates players about the reasoning behind its decisions and reinforces the fact that health and safety considerations are as important as any other aspect of the game.

All NFL rookies are required to participate in the NFL Rookie Symposium, during which medical professionals speak about important health and safety matters, followed by the NFL Rookie Success Program, which takes place during the first 12 weeks of the regular season. The Rookie Success Program consists of nine required classes on matters including money management, social responsibility, emotional intelligence including stress management, transitioning into and out of the NFL, and avoiding high risk behaviors. The material is presented by a combination of league experts, medical experts, coaches and former players. Resources and benefits offered to players, such as free counseling sessions and mental health resources, are reviewed throughout the season, for both rookies and existing players, by directors of player engagement at each club.

In addition to player orientation, the NFL routinely provides players with information, instruction and updates on important health and safety issues through the Rookie Playbook, the NFL Player Engagement website, periodic health alerts, and monthly newsletters for current players, with a separate newsletter addressing the needs of former players. Topics include notification of new health benefit offerings, finding balance in your personal life, planning for life after football, and more.

## NFL Total Wellness

In 2012, the NFL Total Wellness program was launched as a platform to help empower players to make positive long-term health decisions; promote support-seeking behaviors in connection with behavioral and mental health issues; and provide health and safety education for players and all members of their support network, including spouses, parents, and children. The platform expands on a number of NFL Player Engagement programs and service offerings.

Among the program's services is NFL Life Line, a free, independent and confidential 24/7/365 phone consultation service and website developed and manned by third-party mental health professionals. NFL Life Line provides support and referrals to all members of the NFL family in times of need and is administrated by a group of national mental health experts who also operate a program for military service members with the Department of Veterans Affairs (VA).

## Player Education

The league has also expanded education with respect to concussions. A poster and related player fact sheet was developed in partnership with the Centers for Disease Control and Prevention (CDC), NFL Players Association (NFLPA), NFLPS and Professional Football Athletic Trainers Society (PFATS), to educate players about the possible consequences of concussions and advise them to report any related symptoms they may experience to team staff. The poster emphasized the NFL's concussion management guidelines for return to play, which require players to be fully asymptomatic, both at rest and after exertion; pass normal neurologic and neuropsychological exams; and be cleared by both the team medical staff and an independent neurologic consultant. A similar poster, endorsed by 16 national governing bodies for sport, was developed for young athletes and made available through the CDC to display in youth team locker rooms, gymnasiums and schools nationwide. The poster was distributed to approximately 300,000 coaches, parents, schools and sports leagues in 2011.



During that same season NFL Commissioner Roger Goodell distributed a memo to all 32 teams in the league, emphasizing the focus on further reducing contact to the head and neck. Commissioner Goodell stated that further action by the league would be taken to educate players about safe and controlled playing techniques.

The NFL develops educational videos for players to provide a detailed explanation of major rule changes and points of emphasis. The videos detail the changes going into effect, highlight plays from previous seasons, and explain why the rule changes were made. For example, at the start of the 2011 season, a video was produced explaining the new kickoff rule.

Three additional instructional videos distributed throughout the 2011 season focused on illustrating illegal plays and clarified rule changes. Illegal plays from the first half of the season were reviewed and explanations were given on why each was considered illegal. Topics discussed included the definition of a defenseless player and illegal helmet-to-helmet hits.

Coaches and players are also given rule presentations from members of the NFL officiating department each year during training camp. A League Policy for Players manual is distributed to players each year

to serve as a quick reference guide for some of the most commonly applicable policies. Topics in the document include player safety and equipment guidelines and disciplinary measures for violating game-related player health and safety rules.

The NFL will continue to educate players about protecting themselves on the field, and work to improve health and safety at all levels of the game and in all sports.

## The Role of Policy and Programs

Policies are reviewed on an ongoing basis to ensure they meet the highest standards in protecting player health and safety. The policies often include practice and game procedures, but also extend beyond the field to policies and programs for current and retired NFL players.

For example, players are educated on league policies prohibiting substance abuse and the use of anabolic steroids and other performance-enhancing substances. The policy helps to preserve the integrity of the game, protect players against the adverse health effects of using the substances, and send a message to athletes of all ages that substance abuse is not acceptable.

### Game-Related Policies

Game-related policy updates made prior to and during the 2011 season included:

- The first league-wide policy for sideline concussion evaluations was

developed and updated during the season based on lessons learned through its initial implementation.

- Players displaying concussion-like symptoms were removed from the game and not allowed to return to practice or play until being cleared by an independent neurological consultant.
- Mandatory conference calls were conducted by league officials and medical advisors prior to the start of the season to review key health and safety guidelines and policies. One call included all head coaches and general managers while a second call was held with all team trainers and doctors. Hydration and heat-related illness and the revamped concussion protocol were among the subjects reviewed on the calls in preparation for players returning to the practice fields.
- Points of emphasis for officiating were announced prior to the start of the season and included a continued focus on removing illegal hits to the head and neck area; illegal contact with a player's facemask; horse collar tackles; and illegal low blocks such as chop blocks and clips.
- To reinforce the concept of club accountability, teams were advised that they would be fined for players who commit multiple flagrant hits that result in fines for the player.
- An independent certified athletic trainer was added to each game to monitor play of both teams and provide medical staffs with any relevant information that may assist them in determining the most appropriate evaluation and treatment. This athletic trainer is stationed in a booth upstairs with access to video replay and direct communication to the medical staffs of both teams. In most

cases, the athletic trainer is affiliated with a major college program in the area or was previously affiliated with an NFL club. The athletic trainer's role is to provide information to team medical staffs that might have been missed due to a lack of a clear view of the play or because they were attending to other players or duties. The athletic trainers work independent of the clubs, all of their fees and expenses are paid by the NFL main office.

- Starting in the 2011 season, club medical staffs were permitted to use their cell phones during games for purposes of obtaining information relating to the care of an injured player. This is not limited to concussions and is intended to assist team medical staffs in addressing a variety of injuries.
- Clubs were reminded of the importance of team coaching and medical staffs continuing to work together to ensure that full information is available at all times to medical staffs, that players do not take steps to avoid evaluations, and that concussions continue to be managed in a conservative and medically appropriate way.
- Sideline video monitors were installed to allow medical staffs to review the network video of any play during which a player was injured in order to properly manage their care.

### Post-Career Health and Safety Initiatives

The NFL's commitment to player health and safety extends beyond the playing field to retired players. To support retired players, the NFL owners, in partnership with the NFLPA, Pro Football Hall of Fame, and the NFL Alumni Association, created the NFL Player Care Foundation (PCF) in September 2007.

The PCF is an independent organization dedicated to helping retired players improve their quality of life. The PCF addresses all aspects of life – medical, emotional, financial, social and community – providing programs and assistance in each area. The PCF provides free health screenings to all former players, and fiscal grants to qualified former players in need of financial and medical assistance. Support includes joint replacement surgery and rehabilitation services, neurological care, and non-medical assistance.

*"We have emphasized minimizing contact to the head and neck, especially where a defenseless player is involved. It is clear to me that further action is required to emphasize the importance of teaching safe and controlled techniques, and of playing within the rules."*

*- NFL Commissioner Roger Goodell in a 2010 memo to all 32 NFL teams*

## Screenings

Since its inception in 2007, the PFC has dedicated more than \$2.8 million to underwrite medical research and health screenings for former NFL players.

In 2008, the PCF partnered with the American Urological Association Foundation (AUAF) to offer free prostate screenings for retired NFL players across the nation. Since then, more than 1,200 retired players have been screened for prostate cancer through this program.

Cardiovascular screenings are offered to former players through partnerships with the Boone Heart Institute and the Living Heart Foundation. Since the PFC began sponsoring cardiovascular screenings in 2008, more than 1,300 former players have participated in the program.

## Joint Replacement

The NFL provides financial contributions for eligible former players who need knee, hip and shoulder joint replacement surgery. Nearly 250 former players have been reimbursed for costs associated with joint replacement surgery. The PCF assists qualified players with joint replacement expenses.

Joint replacement program centers include:

- St. Vincent's Birmingham / Andrews Sports Medicine & Orthopaedic Center, Birmingham, AL
- Broward Health Broward General Medical Center, Ft. Lauderdale, FL
- Centinela Freeman Regional Medical Center, Marina del Rey, CA
- Cleveland Clinic Foundation, Cleveland, OH
- Lenox Hill Hospital, New York, NY
- MedStar Health – Georgetown University Hospital and Union Memorial Hospital, Washington, D.C. and Baltimore, MD

- The Methodist Hospital, Houston, TX
- The Mount Sinai Medical Center, New York, NY
- Northwestern Memorial Hospital, Chicago, IL
- OASIS MSO, Inc., San Diego, CA
- St. Joseph's Hospital-Atlanta, Atlanta, GA
- Texas Orthopedic Hospital, Houston, TX
- University of Pittsburgh Medical Center, Pittsburgh, PA

## Neurological Care Program

The NFL provides eligible retired players with access to comprehensive evaluations at six top-tier medical centers recognized for their expertise, high-quality service and reputation. Each center has a team of specialists, led by a neurologist who serves as the program director and point of contact for retired players.

Neurological care program centers include:

- Morehouse School of Medicine, Atlanta, GA
- Mt. Sinai School of Medicine, New York, NY
- Tulane University, New Orleans, LA
- University of California, San Francisco, CA
- University of California, Los Angeles, CA
- Washington University School of Medicine, St. Louis, MO

Since 2010, the league has also sponsored 14 events around the nation for retired players to discuss mental health issues, led by Dr. David Satcher, former U.S. Surgeon General and director of the Satcher Health Leadership Institute at Morehouse School of Medicine. Dr. Satcher serves as a mental health advisor to the NFL.

## Spine Treatment Program

The NFL spine treatment program makes available spine specialists at five hospitals across the country to evaluate and treat spine-related conditions among retired players. Each hospital provides an orthopedic spine surgeon who serves as point of contact for the player, and program director who coordinates the services of a team of healthcare professionals and specialists in the evaluation and, if warranted, treatment of eligible former players. The team includes a neurosurgeon and a physiatrist (rehabilitation physician).

Spine treatment program centers include:

- Mt. Sinai Medical Center, New York, NY
- Emory Spine Center, Atlanta, GA
- Washington University Medical Center, St. Louis, MO
- University of California Medical Center, San Francisco, CA
- University of California Medical Center, Los Angeles, CA

## 88 Plan

As a part of the collective bargaining agreement between the NFL and the NFLPA, the "88 Plan," named for Pro Football player and legend John Mackey (who wore number 88 for the Baltimore Colts), provides retired players with as much as \$100,000 per year for individual care; up to \$88,000 for home custodial care in addition to costs pertaining to certain physician services; durable medical equipment; and prescription medications resulting from dementia, Alzheimer's disease, Parkinson's disease and amyotrophic lateral sclerosis (ALS). Since the program's inception in February 2007, more than \$18 million has been distributed to qualifying retired players and their families.

## Player Health Plans

The NFL is committed to ensuring the health of its players and their families both on the field and off with comprehensive health benefits. Highlights include:

### Current Players:

- Complete health care coverage with **no premium**
- No lifetime cap on medical coverage
- Free life insurance of up to \$1.6 million
- Vested players receive 5 years of continued free health insurance after leaving the league, plus eligibility to remain in the plan for life

### Former Players:

- Continued health insurance for 5 years after leaving the NFL

- Access to top-tier neurological care and spine treatment centers
- Financial assistance for knee, hip or shoulder replacements
- Free health screenings
- Bert Bell/Pete Rozelle NFL Player Retirement Plan provides free long term care insurance for eligible players
- Up to \$100,000 per year for individual care and up to \$88,000 for home custodial care for players with dementia, Alzheimer's disease, Parkinson's disease and ALS in the Bert Bell/Pete Rozelle NFL Player Retirement Plan



# ADVOCACY

The NFL is dedicated to making a positive impact on the health and lives of players and fans in the communities of the 32 teams of the league, and across the nation through targeted outreach programs. The programs focus on protecting the health and safety of youth athletes through education on a variety of topics, and by raising awareness of public health issues such as breast cancer. The NFL collaborates with a variety of partners to implement programs focused on increasing awareness and understanding of health and safety issues, and to raise funds for nonprofit organizations such as the American Cancer Society.

## Youth Awareness and Outreach

### Concussion Awareness and Education

According to the Centers for Disease Control and Prevention (CDC), in the last decade there has been a 60 percent increase in visits to emergency departments for sports- and recreation-related traumatic brain injuries (TBIs), including concussions, among children and adolescents. While this increase is partially due to an increase in awareness of these injuries and related symptoms, it is also a reminder that concussions are a serious public health issue going well beyond the NFL. The NFL understands this and champions concussion awareness, education, prevention and effective diagnosis and treatment through a variety of targeted outreach programs to coaches, trainers, youth athletes and their parents, and through advocacy for laws and policies to protect young players.

### The Zackery Lystedt Law

Zackery Lystedt is a young man from the state of Washington who suffered a significant brain injury after returning to play in a middle school football game after sustaining a concussion. Zackery, his family and a broad range of medical, business and community partners

*“When we watch a NFL game we see it so differently than others. The penalties you don’t like or the score you aren’t happy with are so insignificant. We know how impressionable the game is on our youth and are so proud of the NFL’s push for safety and the concern for their players.”*

*- Victor Lystedt, father of Zackery*



lobbied the Washington state legislature for a law to protect young athletes in all sports from returning to play too soon. The Lystedt law contains three essential elements:

- Athletes, parents and coaches must be educated about the dangers of concussions each year.
- If a young athlete is suspected of having a concussion, he/she must be removed from a game or practice and not be permitted to return to play. When in doubt, sit them out.
- A licensed health care professional must clear the young athlete to return to play in the subsequent days or weeks.

After NFL Commissioner Roger Goodell met Zackery and his family, he committed that the league would support promotion and adoption of the Lystedt law in all 50 states to make youth sports safer.

Since the passage of the Lystedt law in the state of Washington in May 2009, many other states have passed similar laws to protect youth athletes. The NFL has worked to raise awareness about the importance of adopting these laws. Commissioner Goodell has contacted governors of states without laws protecting young athletes, encouraging them to pass legislation similar to the Lystedt law. Commissioner Goodell has stated his belief that sports and political leaders can preserve the benefits of organized sports, while simultaneously raising awareness of concussions and ensuring proper and effective treatment. Currently, 40 states and Washington, D.C., have passed youth concussion laws, many with the support of the NFL.

## NFL and USA Football

The NFL's dedication to health and safety extends beyond the professional field into youth football leagues, reaching players, coaches, clinicians, parents and administrators through its commitment and partnership with USA Football. Endowed by the NFL and NFL Players Association (NFLPA), USA Football is the sport's national governing body, an independent nonprofit organization, and the Official Youth Football Development Partner of the NFL and the NFLPA.

The NFL and USA Football collaborate on programs and resources to address key health and safety issues. They work with leading medical organizations, including the CDC, the American College of Sports Medicine (ACSM), and USA Football's Football and Wellness Committee members. Representatives are affiliated with organizations such as the American Red Cross, the University of Nebraska Medical Center, Duke University Medical School, University of Washington Medicine/Harborview Medical Center/Seattle Children's Sports Concussion Program, U.S. Olympic Committee's Sports Medicine Advisory Committee, and others. This collaboration provides educational resources, including:

- Free concussion education and management resources, including dozens of articles, downloadable documents and videos.
- Free educational materials about hydration, conditioning, tackling techniques, nutrition, protective equipment, injury prevention and emergency care, and general player health and safety. Materials include articles, videos and other resources.
- The first online youth football coaching course, which includes comprehension quizzes encompassing concussion education and management, heat and hydration preparedness, tackling techniques, and equipment fitting guidelines. The course has helped train more than 80,000 youth coaches.
- The promotion of safe and healthy play through more than 100 annual football training events and national campaigns.



*"All of you are football players and all of you love the game of football, but it is also important no matter what sport you play that you play it safely. That means understanding the rules; that means understanding your equipment; and that means understanding your body to make sure when you are not feeling well that you get the proper medical care."*

*– NFL Commissioner Roger Goodell, at New York Jets youth fan forum*

- An instructional video series to aid coaches in teaching players how to tackle properly.

In addition, the NFL and USA Football have partnered with the Atlantic Coast Conference on national programs aimed at youth health and safety, including **Put Pride Aside for Player Safety** - a campaign to increase awareness of the seriousness of concussions. The campaign has been successful in raising awareness among youth players, coaches and parents of the importance of removing athletes from play when they are suspected of sustaining a concussion. The campaign has been supported by public service announcements (PSAs), videos for youth football coaches and educational sessions across the country hosted by NFL teams and USA Football for local youth and high school football coaches. The PSA aired during every college football game throughout the 2010 and 2011 seasons on the Atlantic Coast Conference Network, and was included in the pregame programming for many NFL clubs.

**USA Football's Youth Football Safety Surveillance Study**, with funding from the NFL, will be conducted in the fall of 2012 to examine player health and safety in organized youth tackle football across the United States. USA Football has commissioned The Datalys Center of Indianapolis to lead the independent scientific study, the first of its scope in youth football's 80-plus year history. The study's findings will advance player safety and further strengthen USA Football's widely used development resources, employed by youth leagues in all 50 states and Washington, D.C.

**USA Football's Tackle Progression Model** helps youth coaches teach the sport's fundamentals in a safe and smart way. The innovative teaching method gradually introduces young players to contact to foster better learning and to limit incidental contact with the helmet. Developed with the help of football experts within youth, high school, college



*“Participation in sports is a great way for kids and teens to be active. However, young athletes, and especially their parents, need to know about concussions and the danger they pose. We commend the NFL on its commitment and look forward to partnering with them to help prevent injuries among young athletes.”*

*– Dr. Ileana Arias, CDC’s Principal Deputy Director on the release of the NFL-CDC youth concussion poster*

and NFL football, the Tackle Progression Model is endorsed by medical experts specializing in the treatment of sports injuries, including head trauma.

The NFL and NFLPA also created the **Youth Football Fund (YFF)** in 1998 to support the game at the youth level. YFF collaborates with USA Football on a number of health awareness and education programs, including an annual sports safety summit for youth and high school football coaches. YFF also supports a **Coach Smart** awareness initiative, which supplied online health and safety materials to 2010 NFL Player and Coaches Football Camp Grant recipients. From 2010 through 2011, more than 500 coaches associated with the NFL Player and Coaches Football Camp Grant programs participated in the Coach Smart online health and safety course.

## Youth Fan Forums

The NFL launched a series of youth health and safety forums in 2011 to educate young fans and football players about safety precautions in sports.

At the inaugural forum, Commissioner Goodell addressed a group of 200 high school football players, parents and coaches from the New York City area at Met Life Stadium, home of the New York Jets and New York Giants. Commissioner Goodell was joined by Jets owner Woody Johnson, league medical experts and several current and former players who spoke about the importance of safe and fair play. The event focused on concussion prevention and emphasized

that players at all levels, including professionals, must put safety first.

Additional forums were held during Super Bowl week with a group of 50 Indianapolis-area youth football players. NFL players, medical experts and representatives from the Gatorade Sports Science Institute ran drills with the players and gave lessons on proper helmet fitting, basic football skills and concussion awareness. After the season, more than 100 parents of youth football players and 60 youth league coaches were hosted by the Atlanta Falcons. Participants discussed concussion prevention, identification, symptoms and best treatment practices with Falcons CEO and President Rich McKay, representatives from the CDC, and current and former players.

The league will continue to organize these events across the country, teaching young players and their parents and coaches that health and safety is a top priority for every athlete, at every level.

## CDC and Youth Concussion Awareness

Since 2007, the NFL has worked closely with the CDC to produce materials promoting concussion awareness and management for young athletes and their coaches. The results of this partnership include multiple resources for parents, coaches, athletes and clinicians.

The NFL, USA Football and 25 medical organizations and other youth sports entities teamed up in 2007 on the **Heads**

**Up** campaign. At the time, the NFL was the only sports league involved in this initiative, which aims to improve prevention, recognition, management of, and response to concussions across all youth sports. The league has worked with the CDC to create national television PSAs describing the importance of recognizing concussions and taking time to recover before returning to play. The PSAs have featured Commissioner Goodell, as well as former NFL player Kurt Warner. The TV PSAs and accompanying print materials received more than 60 million impressions.

The NFL has also supported the CDC Foundation’s online training modules about concussion in sports. The NFL partnered with the CDC on a training module for youth sports coaches, released in 2010, which has been completed by nearly a half-million youth sports coaches across the country. This module educates coaches on how to identify concussions, supporting implementation of the Lystedt law across the country.

The CDC, with funding from the NFL, has developed another training module that supports Lystedt law implementation.

**Heads Up to Clinicians** was designed to educate health care professionals about key steps to take prior to releasing a concussed athlete to return to play.

Starting in 2012, the U.S. Olympic team medical director is requiring all medical staff to complete the course. New York is also requiring the course for school nurses and certified athletic trainers as part of state concussion law. Coaches and PE teachers in the state are also required to complete the course every two years.

**Heads Up to Clinicians** won a 2012 Telly Award for groundbreaking online content. There were more than 12,000 Telly Award entries.

Additional modules are slated to be released in 2012, including an NFL-funded concussion module for teens and kids. The module will be supported with interactive games and videos featuring professional athletes on the kid-focused NFL RUSH website.



Building on the educational outreach of the **Heads Up** initiative, the NFL and CDC jointly designed a concussion awareness poster in 2010 about best treatment, prevention and detection methods. The NFL required the poster to be displayed in the locker rooms of all 32 teams, and collaborated with USA Football and 15 other national sport governing bodies to develop a version for youth sports. The poster and an accompanying fact sheet were distributed to approximately 300,000 coaches, parents, schools and sports leagues in 2011. In 2012, the NFL created new versions of the **Heads Up** fact sheets, posters and clipboard stickers customized with the logos of all 32 clubs. The materials will be distributed by the teams to youth athletes in their communities.

The locker room poster has been adopted by other sports leagues and organizations, including the US Soccer Federation and the Southeastern Conference.

### Youth Helmet Replacement Program

As part of a joint commitment to player safety, the NFL and a group of sports entities and equipment manufacturers have entered into an unprecedented partnership to create a youth football safety and helmet replacement program, with an emphasis on underserved communities. The initiative removes helmets that are 10 years or older and replaces them with new ones at no cost to the beneficiary leagues and provides coaches with the latest educational materials.

*"I am pleased to see the NFL, USA Football and manufacturers working together to make sure our young football players are not wearing 10-year-old helmets that no longer meet industry safety standards. Increasing awareness of equipment safety and sports concussion will help protect young players from injury."*

*– U.S. Senator Tom Udall*

The NFL is joined in partnership with the NFLPA, USA Football, the CDC, National Athletic Equipment Reconditioners Association (NAERA), National Collegiate Athletic Association (NCAA), National Operating Committee on Standards for Athletic Equipment (NOCSAE), Sporting Goods Manufacturers Association (SGMA), Rawlings, Riddell, Schutt and Xenith, and supported by the U.S. Consumer Product Safety Commission (CPSC).

The NFL, NFLPA, NCAA and NOCSAE have committed approximately \$1 million in the first year. The pilot program is designed to provide information on the state of youth football helmets, including the number of helmets 10 years old or older in use. As of 2012, NAERA members no longer recondition or recertify any helmet that is 10 years of age or older. NOCSAE collects the helmets when removed to use them for research programs.

The effort will educate youth football coaches on health and safety issues and has already provided 4,000 new helmets to football players in low-income communities in 2012.

While helmets are an important tool to protect players, helmets do not prevent concussions. Therefore, the program includes a strong campaign that features safety information from the CDC, the CPSC and USA Football, including materials on concussion awareness, proper helmet fitting, and football instruction from USA Football's Tackle Progression Model and Levels of Contact module. In addition, leagues that receive helmets are required to have their coaches complete USA Football's Level 1 coaching course.

### Nutrition, Substance Abuse and General Fitness Education

#### NFL Play Safe!

The NFL Play Safe! Health and Safety Series is a unique youth football

education module made of four books and 10 posters with comprehensive information about strength and conditioning, first aid, nutrition and psychological health. The NFL worked with the American Red Cross, Michigan State University's Center for the Study of Youth Sports, ACSM and the National Athletic Trainers' Association to develop the content. The kit was created with funding from the Youth Football Fund to provide youth and high school football coaches, their players and parents with user-friendly, football-specific information. The NFL distributed the module to more than 15,000 high school football programs and more than 10,000 youth football organizations across the country. The series is also available on the USA Football website.

## ATLAS and ATHENA

The NFL Youth Football Fund has given more than \$2.6 million to Oregon Health & Sciences University's **ATLAS** (Athletes Training & Learning to Avoid Steroids) and **ATHENA** (Athletes Targeting Healthy Exercise & Nutrition Alternatives) award-winning substance abuse prevention

*"The growth of the Korey Stringer Institute is due to our corporate partners like the NFL, and we are extremely proud of those affiliations. The support is altruistic, not everyone knows the NFL is backing the KSI, yet the NFL continues to do everything they can to impact sports at all levels."*

– Douglas J. Casa, Ph.D., ATC, Chief Operating Officer, Korey Stringer Institute

programs. The programs promote healthy living and the reduction of steroid, human growth hormone and other drug use among male and female high school athletes. The NFL **ATLAS** and **ATHENA** Schools program is used in 14 NFL markets and has reached more than 30,000 high school student athletes and 800 coaches. In 2012, Linn Goldberg, M.D., professor of medicine and chief of the Division of Health Promotion & Sports Medicine at Oregon Health & Science University, and head of the **ATLAS** and **ATHENA** programs, was awarded the

President's Council on Fitness, Sports & Nutrition Lifetime Achievement Award for his groundbreaking work.

## Gatorade and the Korey Stringer Institute

The NFL and Gatorade joined to establish the **Korey Stringer Institute** with the University of Connecticut in 2010 to further research, education and advocacy for the prevention of heat stroke and sudden death in sport. The NFL and Gatorade have also collaborated to run a "Beat the Heat" educational campaign for parents and coaches. The campaign involved NFL players and their wives leading hydration awareness and raising funds for the Kendrick Fincher Memorial Foundation. The NFL also supported Gatorade in developing the **Gatorade Heat Safety Kit**, a free educational resource for athletes, parents and coaches, to spread awareness.

## Youth Fitness Programs

**NFL PLAY 60** was launched in the fall of 2007 to tackle childhood obesity by encouraging kids to be physically active for at least 60 minutes a day. The NFL has committed more than \$250 million to youth health and fitness through programming, grants, and media time for public service announcements since the program launched. The NFL has joined forces with partners such as the American Heart Association, KaBOOM!, National Dairy Council and United Way to build more than 125 NFL Youth Fitness Zones, organize more than 1,500 **NFL PLAY 60** youth events, and integrate programs into more

### SIGNS AND SYMPTOMS

Athletes who experience one or more of the signs or symptoms listed below after a bump, blow, or jolt to the head or body may have a concussion.

#### SIGNS OBSERVED BY COACHING STAFF

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior, or personality changes
- Can't recall events prior to or after hit or fall

#### SYMPTOMS REPORTED BY ATHLETE

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light or noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Just not "feeling right" or is "feeling down"

### ACTION PLAN

If you suspect that an athlete has a concussion, you should take the following three steps:

1. Remove the athlete from play.
2. Do not try to judge the seriousness of the injury yourself. Inform the athlete's parents or guardians about the possible concussion and give them the fact sheet on concussion.
3. Keep the athlete out of play the day of the injury and until a health care professional, experienced in evaluating for concussion, says they are symptom-free and it is OK to return to play.

### IMPORTANT PHONE NUMBERS

**Emergency Medical Services**  
Name: \_\_\_\_\_  
Phone: \_\_\_\_\_

**Health Care Professional**  
Name: \_\_\_\_\_  
Phone: \_\_\_\_\_

**Coaching Staff Available During Practices**  
Name: \_\_\_\_\_  
Phone: \_\_\_\_\_

**Coaching Staff Available During Games**  
Name: \_\_\_\_\_  
Phone: \_\_\_\_\_

IT'S BETTER TO MISS ONE GAME THAN THE WHOLE SEASON.  
For more information and to order additional materials free-of-charge, visit:  
[www.cdc.gov/Concussion](http://www.cdc.gov/Concussion)    [www.nflhealthandsafety.com](http://www.nflhealthandsafety.com)

Clipboard sticker for youth sports coaches, featuring the Kansas City Chiefs logo.



than 77,000 schools nationwide. In 2010, First Lady Michelle Obama's Let's Move! campaign began collaborating with **NFL PLAY 60** to fight childhood obesity and encourage the nation's youth to lead more active lifestyles. In addition, the NFL works with the Cooper Institute, a nonprofit dedicated worldwide to preventive medicine research and education, to fund its NFL PLAY 60 FITNESSGRAM program, which reaches more than 22 million children in all 50 states. The NFL's funding also supports the more than 1,100 schools across all NFL team markets taking part in a Cooper Institute-NFL PLAY 60 evaluation study.

## Community Health Outreach

The NFL advocates for health and safety in communities, providing resources and programs to improve the health of everyone – from family members of players to fans in the stands.

### ***A Crucial Catch***

The NFL, its clubs and players are proud to support the fight against breast cancer. **A Crucial Catch**, in collaboration with the American Cancer Society (ACS), is focused on the importance of annual screenings, especially for women who are 40 years of age and older. Throughout October of each year, NFL games feature players, coaches and referees wearing pink game apparel and using special pink equipment to raise awareness of breast cancer. These items are then auctioned on the NFL Auction website, with 100 percent of the proceeds donated



to ACS. Funds are also raised from the retail sale of pink NFL items. The NFL has created a community playbook to help high schools and youth sports leagues mobilize their communities in raising money for ACS. Since the NFL and ACS first joined forces in 2009, **A Crucial Catch** has raised nearly \$3 million. In 2011, the campaign reached 151 million viewers, including 58 million females.

Proceeds from 2011 onward will fund a new community health worker program in 17 counties across the country that have the lowest screening numbers and highest rates of mortality from breast cancer. The program will provide educational outreach and events in these markets.

### ***Driving Culture through Collaboration and Respect***

The NFL has a deep respect for members of the Armed Forces, displayed annually through NFL Salute to Service events, which honor service members on Veterans Day and beyond. In recent years, the relationship between the NFL and Armed Forces has been harnessed to fuel a collaborative initiative to increase awareness of and address traumatic brain injury (TBI) in combat and sports. From openly discussing the effects of concussions to sharing safety equipment research and technology, this

is a relationship that continues to develop and grow, benefiting both parties.

Collaboration between the Armed Forces and NFL was born out of supportive dialogue between NFL Commissioner Roger Goodell and former Vice Chief of Staff of the U.S. Army General Peter Chiarelli. In March 2012, a focus group of seven current and former NFL players and nine Armed Services members was convened to discuss head injuries. The meeting sparked a dynamic conversation. Both groups understood the importance of reporting concussions, but also admitted to failing to do so in the past. Above all, they shared strong bonds with their respective teammates, and felt that looking out for each other's health is always a priority. The NFL is utilizing these results to further improve the culture of the league through comprehensive education.

In August 2012, the NFL joined U.S. Army Chief of Staff General Ray Odierno at West Point to announce a long-term initiative to enhance the health of soldiers and players by sharing information, providing education and engaging in discussion on concussion and health-related issues that affect both organizations. They also announced the launch of NFL and Army websites that provide comprehensive TBI information



Photo: Tommy Gilligan, U.S. Army

On August 30, 2012, Army Chief of Staff Gen. Ray Odierno and NFL Commissioner Roger Goodell signed a letter formalizing the initiative between the Army and the NFL to help raise awareness about traumatic brain injury.

*"If I try to address this with a soldier, they may understand what I'm saying. But if I put an NFL guy in there who says, 'Hey, I understand what you're going through, I had this issue, too,' boy, that resonates with our soldiers."*

– Maj. Gen. Stephen R. Lanza

for players and service members. Other plans for the initiative include event-based forums to bring together players and soldiers to discuss their experiences with injuries, public service announcements and social media interactions to promote help-seeking behaviors in both organizations, a peer-to-peer program that matches retired NFL players with soldiers transitioning out of the Army, and the sharing of medical research and information between both organizations.

Upcoming activities include forums in which members of the military will visit NFL teams to speak with players about head injuries, integration of the NFL and Armed Services head injury awareness campaign into the NFL **Salute to Service**, and a series of educational health and safety posters for military bases and NFL facilities. Several NFL teams, including the Seattle Seahawks, have also promoted mental health programs for veterans.

### **Prostate Cancer Screening and Education**

In addition to collaborating with the American Urological Association Foundation (AUAF) to offer free prostate screenings for retired NFL players through the NFL Player Care Foundation (PCF), the NFL supports the **Know Your Stats about Prostate Cancer** campaign. The campaign was developed by the AUAF to encourage men over 40 to talk with their doctors about prostate cancer, their PSA (prostate-specific antigen) score and getting regular physical exams. In just six weeks in 2010, more than 500 educational events were attended by 54,000 men in more than 300 cities nationwide. Prostate cancer screening offered at some of the event locations was completed by 33,000 men — just over the number of men who will die this year from the disease. In addition to supporting the campaign and AUAF with an annual grant from the PCF, the NFL assists the AUAF with media outreach and event support. The league also hosts screenings during events at the annual Pro Football Hall of Fame week and Super Bowl week to extend the reach of the program.

*“As a cancer survivor, I’m lucky to be able to spread the message with the AUA Foundation and NFL encouraging other men to take charge of their prostate health and to stay in the game for life.”*

– Mike Haynes, Pro Football Hall of Fame player, Know Your Stats spokesman

### **Partnership for Clean Competition**

In 2008, the NFL committed \$3 million to The Partnership for Clean Competition (PCC), a nonprofit grant-making organization that funds high-quality and innovative anti-doping research. Founded by the NFL, United States Olympic Committee, United States Anti-Doping Agency and Major League Baseball, the PCC combines the resources and expertise of many of America’s leading sports entities. The PCC has awarded \$4.4 million in grants since 2008. The NFL has renewed its commitment to this partnership. In December of 2011, the NFL hosted a conference for PCC entitled, “The Doping Decision: Deterring Doping in Sport.” The event brought together leaders and influencers in anti-doping to discuss new ways to detect drug use and to promote clean competition across all levels of sport.

### **NFL/NFLPA Research and Education Foundation, Inc.**

The NFL/NFLPA Research and Education Foundation, Inc. (NNREF) is a 501(c)(3) not for profit organization founded by the NFL and the NFL Players Association. As a supporting charity of NFL Charities, NNREF is committed to supporting research and educational initiatives that focus on the health and safety of football players; particularly regarding the importance of clean competition and proper development of athletes at the youth and high school levels. In addition, the foundation issues grants to organizations that focus on youth steroid prevention efforts. In addition, the foundation issues grants to organizations that focus on youth steroid prevention efforts.

### **PARTNERSHIP FOR clean competition**





# SAFETY RULES

**As the game continues to evolve, so too do the rules that ensure fair competition and make the game safer.**

**Notable measures have included rules targeting unnecessary roughness, helmet to helmet contact and hits on defenseless receivers, as well as rules aimed at further protecting the quarterback.**

In recent years, the NFL has modified its playing rules to sharply reduce contact to the head and neck of players. One driving force behind the NFL's continuous focus on safety rule improvements is the NFL Competition Committee, currently chaired by Rich McKay, President and CEO of the Atlanta Falcons.



**Rich McKay**

Chair, Competition Committee;  
President and CEO, Atlanta Falcons

While the Committee examines rules and regulations covering all aspects of the game, it emphasizes those areas dealing with player safety. Each year, the NFL Competition Committee conducts a complete review of player injuries and discusses means by which the NFL can

reduce them through the implementation of new rules, or by clarifying or strengthening enforcement of existing rules. The Committee solicits input from the clubs through an in-depth survey, and then thoroughly evaluates all suggested changes. In addition, on-field game officials, the NFL Players Association and player representatives offer input on the rules and state of the game.

The Competition Committee primarily bases its recommendations and priorities for each year on player safety insights and data provided to them by the following panels and committees. Rule changes are then voted on by team owners.

In March of 2012, the Competition Committee voted to expand the list of "defenseless players" to include defensive players on crackback blocks, making it illegal to hit them in the head or neck area. NFL owners then voted to make protective thigh and knee equipment mandatory for players beginning in 2013.

## ***Player Safety Advisory Panel***

This Panel is charged with taking a long-term view toward making the game safer for all players at every level of the sport. The Panel is co-chaired by Pro Football Hall of Fame Coach and former broadcaster John Madden and Hall of Fame player Ronnie Lott, and comprised of former players, coaches and NFL executives.



**John Madden**

Co-Chair, Player Safety Advisory Panel;  
Pro Football Hall of Fame Coach and  
Former Broadcaster



**Ronnie Lott**

Co-Chair, Player Safety Advisory Panel;  
Pro Football Hall of Fame player

*"We never are going to back up from player safety. We are always going to push the agenda as much as we can. We appreciate when teams push it, also."*

*– NFL Competition Committee Chair Rich McKay*

The focus of the Panel is to review all aspects of the game — including playing rules, techniques, strategies, training methods, safety-related studies and equipment standards — with an eye toward improving player safety. The Panel also weighs considerations such as reducing the overall amount of offseason work, and/or limiting the use of helmets (and therefore contact) in practice, minicamps, Organized Team Activity, and training camps. Recommendations from the Panel are provided directly to the Competition Committee and NFL Commissioner Roger Goodell.

### ***Injury and Safety Panel***

In addition to the support the Injury and Safety Panel provides in the area of medical research, the data collected and analyzed by the Panel is also provided to the Competition Committee to inform the development of new player safety rules and regulations.

### ***NFL Owners Health and Safety Advisory Committee***

Founded in 2011, the Committee provides support for and oversees all areas of work the NFL is conducting in the area of health and safety. Chaired by John York, M.D., Co-Chairman of the San Francisco 49ers, the Committee is represented by:

- Jerry Jones, Dallas Cowboys Owner
- Rich McKay, Atlanta Falcons President and CEO
- John Mara, New York Giants Owner
- Mark Murphy, Green Bay Packers President and CEO

- The restraining line for the kicking team was moved from the 30- to the 35-yard line in an effort to increase touchbacks.
- All kicking team players other than the kicker must be lined up no more than five yards behind their restraining line, eliminating the 15-20 yard running “head start” that had become customary for many players.
- The list of “defenseless players” was expanded to include a kicker/punter during the kick or during the return, a quarterback at any time after a change of possession, and a player who receives a “blindside” block when the blocker is moving toward his own endline and approaches the opponent from behind or from the side. Previously, these players were protected against blows to the head, but not against blows delivered by an opponent with the top/crown or forehead/“hairline” parts of the helmet against other parts of the body.
- A receiver who has completed a catch is a “defenseless player” until he has had time to protect himself or has clearly become a runner. A receiver/runner is no longer defenseless if he is able to avoid or ward off the impending contact of an opponent. Previously, the receiver who had completed a catch was protected against an opponent who launched and delivered a blow to the receiver’s head.

At the Competition Committee’s annual meeting held on March 26, 2012, significant and positive findings were reported in connection to the change in the restraining line for the kicking team being moved from the 30-to the 35-year line. This rule change achieved its intended effect to increase the number of touchbacks, with the number of kickoff returns reduced to 53 percent. More importantly, there was a 40 percent reduction in the number of concussions occurring on kickoffs compared to the 2010 season.

These initial findings provide further reinforcement of the critical importance for ongoing study and evaluation of the effectiveness of existing game rules and the continued pursuit of player safety improvements.

## **Rule Changes**

In addition to the rule changes made prior to the 2012 season, the following rule changes focused on protecting player health and safety were recently enacted:

## **Evaluation and Impact of Rule Changes**

Following the conclusion of the 2011 NFL season, the Competition Committee conducted a thorough evaluation of the impact that rule changes established prior to the season had on player safety.

# TOMORROW

Scientific advancements and a greater understanding of the issues that affect the health and safety of players are key to sustaining improvement. To that end, the NFL is dedicated to supporting the science and medical research communities. Throughout the past four decades, the league has provided grants to world-class research institutions investigating medical issues that can affect not only players, but also the general public. The results from these studies have helped shape playing techniques, safety equipment standards and development at all levels of the game, and will continue to improve the health and safety of players at all levels in the future.

# RESEARCH

**Continued progress on health and safety must come from rigorous, scientific research. In order to accelerate independent health and safety research of the highest caliber, the NFL supports health and safety research with unrestricted grants for medical institutions and through its non-profit arm, NFL Charities (NFLC).**

## The Commitment to Research

### **Looking Forward – Investing in Tomorrow**

The NFL is providing \$30 million in funding for medical research to the Foundation for the National Institutes of Health. The unrestricted gift is the NFL's single-largest donation to any organization in the league's 92-year history. The National Institutes of Health (NIH) will oversee the research, which will be designed to benefit athletes as well as the general population, including members of the military. The funding will support the most innovative and promising research on brain injuries and related topics, including: chronic traumatic encephalopathy; concussion detection, prevention, management and treatments; and the potential relationship between traumatic brain injury (TBI) and late-life neurodegenerative disorders, with a focus on Alzheimer's disease. In addition to brain research, funding will be dedicated to investigating: sudden cardiac death in young athletes; heat and hydration-related illness; chronic degenerative joint disease from athletic injuries; the transition from acute to chronic pain; and the detection and health effects of performance enhancing substances, including human growth hormone.

As part of the NFL and NFL Players Association's latest collective bargaining agreement, the two organizations agreed to commit \$100 million to medical research over the next 10 years. Funds will be administered to research of the highest caliber, with the greatest

*"...not only is traumatic brain injury an issue in the military and in professional sports, but it also affects people of all different ages. It's the leading cause of death and disability in young children and has increasing impact in older adults. With this generous gift from the NFL..., NIH funded investigators will be able to determine what causes brain damage after traumatic brain injury."*

*- Story C. Landis, Ph.D., Director,  
National Institute of Neurological Disorders and Stroke,  
National Institutes of Health*

potential impact on the future of football and those who play it.

In 2012, NFLC awarded a \$75,000 grant to the National Foundation for the Centers for Disease Control and Prevention (CDC) to fund a study to be conducted by the Institute of Medicine Board of Children, Youth, and Families and the National Research Council on sports-related concussions in young athletes. A committee of statisticians, sports medicine experts, youth sports representatives, psychologists, bioengineers and neuroscientists will analyze literature about concussions in terms of their causes, relationship to hits to the head or body during sports, effectiveness of protective devices and equipment, screening and diagnosis, treatment and management, and long term consequences. The committee's consensus report will undergo peer review before being shared with research funding agencies, school districts, athletic personnel, parents and equipment manufacturers to be used as a guide for determining the concussive status of players and identifying the need for further research on sports-

related concussions. The study is scheduled to take place from September 2012 until November 2013.

The NFL also supports leading researchers and institutions through NFLC medical research grants. Each year \$1.5 million in medical research grants is allocated by NFLC to support these endeavors and help address risk factors that exist not only for football players but for all athletes and citizens with active lifestyles. The NFL and the NFLC have funded nearly \$22 million in sports-related medical research throughout the past four decades.

In addition, the NFL has provided an unrestricted grant of \$1 million to the Center for the Study of Traumatic Encephalopathy (CSTE) at Boston University School of Medicine for research into long-term effects of repetitive brain trauma in athletes and supported a successful CSTE application for NIH funding into the research of biomarkers. In 2012, the league gave more than \$1.5 million to researchers and organizations to conduct studies on a range of player health and safety

issues, including: stem cells and nervous system injuries; MRI methods after concussions; the effect of temperature on the severity of potential brain injuries; the implications of helmet, facemask and shoulder pad designs on airway and cardiovascular care; and a sleep apnea program focused on NFL players.

### ***Third-party Studies Look at Long-term Player Health***

As part of the NFL's efforts to support the health and safety of both current and former players, close attention is paid to findings on long-term health. For example, the National Institute for Occupational Safety and Health (NIOSH) recently issued two important updates building on a study of retired NFL players commissioned by the NFL Players Association in the 1990s.

The first updated study, published in *The Journal of Cardiology* in January 2012, shows that former NFL players as a population live longer than the average male. Overall, NIOSH found the mortality rate of former players was nearly half the anticipated number, 334 observed deaths out of 3,439 former players versus 625 expected. NIOSH also found former players are significantly less likely to die from heart disease or cancer. The former players studied also had a suicide rate 59 percent lower than the general public.

*“NIOSH tracked nearly 7,000 players and issued a report, in '94, concluding that NFL retirees were dying at about half the rate of their American male peers. In other words NFL players, in general, live longer.”*

*- “Dead Wrong,” Sports Illustrated, May 21, 2012, written by David Epstein*

*“We have to be very careful and note that we don't know if this is a result of concussions. Are these increased risks because of exposure to contact? In their words, there's an assumption that there is causality there.”*

*- Jeffrey Kutcher, associate professor of neurology at the University of Michigan discussing the NIOSH study on neurodegenerative causes of death among former football players, CNN, September 5, 2012*

The results from this study were shared with retired players in May 2012.

The second NIOSH study update examined neurodegenerative causes of death, and indicated that former players who played the game for at least five seasons between 1959 and 1988 were about three times more likely to die from a neurodegenerative disease such as Alzheimer's disease than the average person. Researchers were unable to establish a specific link to head injury because of a lack of data on concussions and other relevant injuries from that time period, or to speculate on how safety, policy and equipment and related changes since 1988 may affect current probabilities. However, the study clearly underscores the ongoing need to invest in research, education, advocacy, and advances in protection equipment and technology, as well as continued strengthening and enforcement of rules and policies to protect players – consistent with the NFL's actions outlined in this report.

The full NIOSH reports can be found via the following links: [http://www.ajconline.org/article/S0002-9149\(11\)03387-X/fulltext](http://www.ajconline.org/article/S0002-9149(11)03387-X/fulltext) and <http://www.neurology.org/content/early/2012/09/05/WNL.0b013e31826daf50.full.pdf>

**Dr. Mayland Chang**, a faculty member in the Department of Chemistry and Biochemistry at the University of Notre Dame, is applying an NFLC grant towards her work on developing therapeutics for the treatment of traumatic brain injury. Dr. Chang's research hopes to treat brain cells after an event to prevent damage that occurs. This is truly life-changing research that may one day lead to treatment for traumatic brain injuries.

In 2009, the NFL Player Care Foundation (PCF) sponsored a study of the current health and well-being of retired players. A team of researchers at the University of Michigan conducted phone interviews with 1,063 retired players and asked questions across a range of health topics. Ultimately, the retired players reported being similar to or healthier than the general population with respect to most health issues, and showed lower rates of diabetes and cardiovascular disease. The retirees also reported higher rates of financial stability than the general population and satisfaction with their lives. The study also found that Alzheimer's disease or similar memory-related diseases were reported by the former NFL players at a rate higher than the general public. Lead study author David Weir noted the topic should be studied further, and that the results from the phone survey do not prove a link between playing football and later mental troubles.

Another study released in April 2012 conducted by Mayo Clinic reviewed a select group of males who played football in the 1940s and '50s and found they showed no increased risk of developing neurodegenerative diseases later in life when compared to non-football players from the same community.

## **Research Priorities in Action**

**NFL Charities Medical Research Criteria and Focus**  
Eligible applicants may apply for grants



# Recipients of NFL Charities medical research grants include:



Boston University School of Medicine



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



University of Pittsburgh



MASSACHUSETTS  
GENERAL HOSPITAL

VANDERBILT UNIVERSITY  
MEDICAL CENTER

Keck School of  
Medicine of USC



Boston Children's Hospital  
Until every child is well™



Weill Cornell Brain and Spine Center



COLLEGE OF  
SCIENCE



David Geffen  
School of Medicine



Cleveland Clinic

of up to \$100,000, allowing for 10-15 projects to be funded annually. The NFLC medical grants run on an 18-month funding cycle. Grants cover direct research costs and target nonprofit educational and research institutions only. Grant awards are made based on scientific merit, clinical relevance and significance to the NFL community.

In 2010, NFLC revamped the application and review process. The updated process aligns with industry standards for medical research grants as outlined by the NIH. NFLC continues to review and enhance the process and structure to align with player health and safety research priorities, including:

- Concussion and TBI
- Cardiovascular health
- Orthopedic and musculoskeletal injury
- Methicillin-resistant Staphylococcus aureus (MRSA), an infection caused by a strain of Staph bacteria that has become resistant to the antibiotics commonly used to treat ordinary Staph infections

Grant applications submitted to NFLC are reviewed by committees of independent experts who sit on the Medical Grants Subcommittee of the NFL Injury and Safety Panel. After grants are reviewed, recommendations for awards are made by the subcommittees.

## Research Results

Research funded by NFLC has resulted in studies published in peer-reviewed journals and presented at medical conferences. Recent notable studies include:

- Baylor College of Medicine discovered a specialized cholesterol test may predict carotid plaques better in individuals with metabolic syndrome. The study participants were retired NFL players and the study received funding from NFLC. Study results were presented at the American College of Cardiology 60th Annual Scientific Session & Expo and Innovation in Intervention: i2 Summit 2011.

- The University of Southern California received an NFLC grant for a first-of-its kind study of the heart rates of athletes in real-game situations. The grant team placed heart patches on USC football players, collecting data during a scrimmage in real time. The team plans to identify differences in heart rate by position, and to establish a baseline for normal and abnormal heart rates in order to improve athlete safety.
- Rush University Medical Center and the University of Iowa investigated recent advances in understanding structural damage and biological response following joint injury and identified directions that future researchers should take. The researchers concluded that further research should focus on understanding the health of joint tissue during the healing period after injury in order to develop more effective treatment options. The research findings were published in the *Journal of Orthopaedic Research*.

Previous studies have focused on improving the treatment of athletic hip disorders, improving stem cell-mediated healing in tendon overuse injuries, evaluating the biomechanics of ACL-reconstructed knees and more.

In 2010, grants were awarded for studies assessing the possible association between football exposure and dementia in retired football players; concussion surveillance among a large national sample of middle school football players; the role of the cervical spine in football-related concussion; examining how genetics may influence the outcome after repeated concussions; an integrated neuroimaging study for diagnosing and monitoring mild TBI in football players; the dynamic heart rate behavior of NFL athletes; and the prevalence, distribution and fate of MRSA on synthetic turf grass systems.

NFL Charities will continue to fund significant research that may lead to improvements in the health and safety of athletes at all levels.

# Collaborating with Independent Experts

The NFL has convened committees of independent experts in a variety of medical fields to guide its medical research process. These experts play critical roles in advancing the NFL's agenda for the benefit of all athletes, from identifying priority areas, to analyzing injury data, to reviewing medical grants.

These committees include:

## Head, Neck and Spine Committee

The NFL Head, Neck and Spine Committee advises the NFL on best practices for concussion prevention and management, as well as for avoidance or protection against other head, neck and spine injuries. The Committee is led by Dr. Hunt Batjer, Lois C.A. and Darwin Smith Distinguished Chair in Neurological Surgery at the University of Texas Southwestern Medical Center, and Dr. Richard G. Ellenbogen, Chairman of the Department of Neurological Surgery at the University of Washington School of Medicine.

Committee members are conducting independent research into a variety of subjects that play a role in player safety. For example, the Subcommittee on Safety Equipment and Playing Rules is analyzing different types of padding for football helmets that may reduce forces on the head from hits during play. This independent testing may potentially help manufacturers to consider or implement new or different materials. The Subcommittee is also studying the potential uses of accelerometer data, which include the number, location and magnitude of hits players receive.

There are six subcommittees that focus on specific issues related to head, neck and spine injuries and their prevention and treatment.

- **Subcommittee for the Development and Management of Prospective Database for NFL Players:**



**H. Hunt Batjer, M.D., FACS**

Co-Chair, Head, Neck and Spine Committee;  
Lois C.A. and Darwin Smith Distinguished Chair  
in Neurological Surgery University of Texas  
Southwestern Medical Center



**Richard G. Ellenbogen, M.D., FACS**

Co-Chair, Head, Neck and Spine Committee;  
Professor and Chairman  
Residency Director, Department of  
Neurological Surgery  
Theodore S. Roberts Endowed Chair  
University of Washington School of Medicine;  
Co-Director, Seattle Sports and Spine  
Concussion Program

Developing a database to track player health. Led by Robert Harbaugh, M.D., FACS, Professor and Chair, Department of Neurosurgery, Penn State Hershey Medical Center.

- **Subcommittee on Former Players and Long-Term Effects of Brain and Spine Injury:** Developing a long-term study of former players' health. Led by Mitchel S. Berger, M.D., Professor and Chairman, Department of Neurological Surgery, University of California San Francisco.
- **Subcommittee on Brain and Spine Injury Research:** Contains scientist members of the Department of Defense, CDC and Massachusetts Institute of Technology. Evaluates new research avenues and grants. Research directions pursued range from TBI-related biomarkers, to novel imaging modalities and treatments of TBI. Led by Russell Lonser, M.D., Chief, Surgical Neurology Branch, National Institute of Neurological Disorders and Stroke.

## Head, Neck and Spine Committee Focus:

- Ensuring that NFL team medical staffs have ongoing access to information on the best technology and research on the prevention and treatment of head, neck and spine injuries.
- Studying injury data and equipment research to assist the NFL, its teams and its players in providing the safest environment for minimizing injuries to the head, neck and spine.
- Examining the latest treatment strategies and sharing information with medical staffs and players the best practices regarding treatment of injuries to the head, neck and spine.
- **Subcommittee on Advocacy and Education:** Develops educational material, advocates for safety issues of behalf of all youth and professional athletes. Led by Stanley A. Herring, M.D., Clinical Professor, Departments of Rehabilitation Medicine, Orthopaedics and Sports Medicine, and Neurological Surgery; Director, Spine, Sports and Orthopaedic Health, University of Washington School of Medicine; Co-Medical Director, Seattle Sports Concussion Program; and Team Physician, Seattle Seahawks and Seattle Mariners.
- **Subcommittee on Return-to-Play Issues:** Reviews and advises on return-to-play issues, including evaluation of sideline assessment tools and post-injury tools for concussion assessment in NFL players. The Subcommittee was designed to standardize on-field neurological assessment as well as return-to-play guidelines. Led by Margot Putukian, M.D., Director of Athletic Medicine Services, Head Team Physician, Princeton University, and Physician Representative, NCAA and American College of Sports Medicine.
- **Subcommittee on Safety Equipment and Playing Rules:** Evaluates performance of safety equipment for the protection of the head and neck. Led by Professor Kevin Guskiewicz, Ph.D., ATC, Kenan Distinguished Professor, Chairman, Department of Exercise and Sport Science, University of North Carolina at Chapel Hill.

## ***Injury and Safety Panel***

The Injury and Safety Panel focuses on managing and overseeing the league's player injury surveillance system. Chaired by Elliott Hershman, M.D., Chairman, Department of Orthopaedic Surgery, Lenox Hill Hospital, and Team Orthopedist, New York Jets, the Panel provides yearly data compilation and analysis of the types and severity of injuries sustained by players. Data collected are utilized to support various player safety efforts, including the development of player safety rules by the NFL Competition Committee. The data are also used by team medical staffs to assist in injury prevention and treatment. The Panel meets quarterly, reporting to and making recommendations directly to Commissioner Goodell, and provides input and guidance on the league's medical research program.

Under the broader purview of the Injury and Safety Panel are three subcommittees:

### ***Foot and Ankle Subcommittee***

The Foot and Ankle Subcommittee focuses on collecting and analyzing data to aid in the development and effective use of protective equipment for players. The Subcommittee has funded pivotal studies at the University of Virginia, Michigan State University and Boise State University that analyze how shoe and turf factors relate to injuries. Data collected from these and other studies have been used by the Subcommittee in its work with shoe and equipment manufacturers, technology providers, and playing surface experts as well as equipment managers.

The Subcommittee is currently co-chaired by Michael Coughlin, M.D., Director,



#### ***Elliott Hershman, M.D.***

Chair, Injury and Safety Panel;  
Team Orthopaedist, New York Jets;  
Chairman, Orthopaedic Surgery,  
Lenox Hill Hospital

Coughlin Foot and Ankle Clinic, St. Alphonsus Regional Medical Center, and Former President, International Federation of Foot and Ankle Surgeons; and Robert Anderson, M.D., Team Physician, Carolina Panthers; Founding Member, OrthoCarolina Foot and Ankle Institute; and Past President, American Orthopaedic Foot and Ankle Society. The Subcommittee meets quarterly and reports its findings and makes recommendations to the Injury and Safety Panel.

### ***Cardiovascular Health Subcommittee***

The Cardiovascular Health Subcommittee is charged with investigating the prevalence and risk factors for the development of premature cardiovascular disease, including diabetes, hypertension, sleep apnea and obesity in current and former NFL players. The Subcommittee oversees the cardiovascular and obesity health screenings for retired NFL players that are conducted by The Living Heart Foundation and The Boone Heart Institute and funded by the NFL PCF. Standards for screenings for cardiovascular risk factors, such as hypertension, among active players are established by the Subcommittee. Currently, the Subcommittee is conducting a three-year study analyzing the use of echocardiography at the Combine to identify cardiovascular risk factors among active players. Data from screenings of both active and former players are reviewed by the Subcommittee and used in their research, such as an ongoing study of the relationship between hypertension and race.

Research findings from the Subcommittee have been published in influential medical journals, including "Sleep-Disordered Breathing in the National Football League" in the journal *Sleep*, and "Prevalence of Cardiovascular Disease Risk Factors among National Football League Players" in the *Journal of the American Medical Association*.

The Subcommittee is co-chaired by Dr. Robert Vogel, Clinical Professor of Medicine, University of Colorado Health Sciences Center, and Dr. Andrew Tucker, Head Team Physician, Baltimore Ravens, and Medical Director of Sports Medicine, MedStar Union Memorial Hospital. Subcommittee members include



Sensors in football helmets are used to record impacts.

experts in cardiology and cardiovascular medicine, endocrinology, obesity, sleep medicine, hypertension and cardiovascular disease epidemiology.

### ***The Medical Grants Subcommittee***

The Medical Grants Subcommittee is responsible for the quality assessment and grading of research grant proposals submitted annually to the NFL and NFL Charities for funding. The Subcommittee's process includes an external review board of independent specialists who identify proposals that address the most pressing issues related to football health and safety. Previous reviewers have included representatives from the NIH, CDC, Massachusetts Institute of Technology, Vanderbilt University School of Medicine, and Ohio State University College of Medicine, among others. To date, the Subcommittee has played a pivotal role in the funding of hundreds of research projects.



# EQUIPMENT

**An important component of protecting the health and safety of football players at all levels is the correct use of proper equipment. While equipment alone cannot prevent injury, by supporting and investing in the latest research and understanding of biomechanics, the league can play a key role in helping manufacturers develop the safest equipment available.**

## An Evolution in Safety Equipment through Research

The NFL supports the efforts of equipment manufacturers to provide equipment of the highest standard by investing in research. The application of new technology to game equipment includes more than just protective equipment; all game and player equipment is constantly evolving to protect the players of the NFL. The reach of advances made through NFL-supported research goes beyond the 32 teams of the league and onto the field of colleges, high schools and youth programs across the country, as well as other sports.

The Subcommittee on Safety Equipment and Playing Rules, a subset of the Head, Neck and Spine Committee, focuses on studying injury data and equipment efficacy research to assist NFL teams and players in evaluating the performance of safety equipment for the protection of the head and neck with a goal of minimizing injuries. The NFL works to ensure that players are aware of the best options when choosing equipment. In 2010, with support of the NFL Players Association, the league commissioned an independent study at two laboratories to assess the performance of helmets worn by NFL players, and shared those results with team athletic trainers, physicians and equipment managers, and players. The league also shares research information with major helmet makers in order to develop better equipment. For the last two years, the NFL has offered manufacturers a video of every play that resulted in a concussion from the past season. Dr. Guskiewicz of the Head, Neck and Spine Committee led a recent laboratory assessment of helmets worn

by NFL players in managing impact from field collisions. Through these types of work, the NFL is always improving its recommendations and requirements for on-field safety.

The Foot and Ankle Subcommittee of the Injury and Safety Panel oversees NFL-related biomechanical research conducted at the University of Virginia. Research results are shared with shoemakers and manufacturers of artificial turf. Following recommendations from the Subcommittee to standardize the characteristics of turf in order to decrease injuries, manufacturers have started to conduct tests on various aspects of the turf, including surface hardness and the depth of sand below the turf, prior to every game. Similar standards were developed for grass surfaces.

Additional research conducted by the Subcommittee identified the degree of stretch at which a “turf toe” injury occurs, finding that less movement of the toes within the shoe leads to a decreased chance of a turf toe injury. The Subcommittee has shared this information with the shoe makers to help build a shoe that will address the issue.

## Advancing Playing Equipment



# TOGETHER

Collaboration is a key part of the health and safety culture of the NFL. From research institutes to government organizations to independent researchers, doctors, surgeons and athletic trainers to equipment manufacturers, the NFL convenes experts across the spectrum of the sport to ensure comprehensive and collective discussions inform the decisions that impact health and safety.



The NFL thanks its partners, with special thanks to the members of committees and panels that volunteer their time and expertise to guide the NFL.

### **Competition Committee**

- **Rich McKay, Chair, Competition Committee; Atlanta Falcons, President and CEO**
- **Jeff Fisher, St. Louis Rams, Head Coach**
- **Stephen Jones, Dallas Cowboys, Executive Vice President, Chief Operating Officer, Director of Player Personnel**
- **Marvin Lewis, Cincinnati Bengals, Head Coach**
- **John Mara, New York Giants, President and CEO**
- **Mark Murphy, Green Bay Packers, President and CEO**
- **Ozzie Newsome, Baltimore Ravens, General Manager**
- **Rick Smith, Houston Texans, General Manager, Executive Vice President**
- **Ken Whisenhunt, Arizona Cardinals, Head Coach**

### **Player Safety Advisory Panel**

- **Ronnie Lott, Panel Co-Chair; Pro Football Hall of Fame Player**
- **John Madden, Panel Co-Chair; Pro Football Hall of Fame Coach and Former Broadcaster**
- **Ernie Accorsi, Former General Manager**
- **Antonio Freeman, Former Player**
- **Patrick Kerney, Former Player**
- **Willie Lanier, Pro Football Hall of Fame Player**
- **Oliver Luck, Director of Intercollegiate Athletics, West Virginia University**
- **Steve Mariucci, Former Head Coach**
- **Anthony Muñoz, Pro Football Hall of Fame Player**

### **Injury and Safety Panel**

- **Elliott Hershman, M.D., Chair, Injury and Safety Panel; Chairman of the Department of Orthopaedic Surgery, Lenox Hill Hospital; Team Orthopedist, New York Jets**
- **Robert Anderson, M.D., Co-Chair, Foot and Ankle Subcommittee;**

Founding Member, OrthoCarolina Foot and Ankle Institute; Team Physician, Carolina Panthers; Past President, American Orthopaedic Foot and Ankle Society

- **John Bergfeld, M.D., Former Team Physician, Cleveland Browns; Former Chief of Sports Medicine, Cleveland Clinic**
- **James Bradley, M.D., Team Orthopaedist, Pittsburgh Steelers; Clinical Professor of Orthopaedics, University of Pittsburgh School of Medicine**
- **Lawrence Brown, M.D., NFL Advisor, Drugs of Abuse**
- **Anthony Casolaro, M.D., Team Internist and Head Physician, Washington Redskins; Clinical Associate Professor of Medicine, Georgetown University School of Medicine**
- **James Collins, ATC, Head Athletic Trainer, San Diego Chargers**
- **Michael Coughlin, M.D., Co-Chair, Foot and Ankle Subcommittee; Director, Coughlin Foot and Ankle Clinic, St. Alphonsus Regional Medical Center; Former President, International Federation of Foot and Ankle Surgeons**
- **Robert Johnson, M.D., Professor Emeritus of Orthopaedic Surgery, University of Vermont School of Medicine**
- **John Lombardo, M.D., NFL Advisor, Performance Enhancing Agents**
- **Vandana Menon, M.D., Ph.D., MPH, Director of Clinical Epidemiology, Outcome Sciences**
- **Jeff Silverstein, M.D., Associate Dean of Research, Executive Director, Internal Review Board, Professor of Anesthesiology, Surgery and Geriatrics and Palliative Medicine, Mount Sinai School of Medicine**
- **Joseph Skiba, Equipment Director, New York Giants**
- **Kurt Spindler, M.D., Professor and Vice Chair, Department of Orthopaedics and Rehabilitation, Vanderbilt University School of Medicine**
- **Andrew Tucker, M.D., Co-Chair, Cardiovascular Health Subcommittee; Head Team Physician, Baltimore Ravens; Medical Director of Sports**

Medicine, MedStar Union Memorial Hospital; Former President, NFL Physician's Society

- **Robert Vogel, M.D., Co-Chair, Cardiovascular Health Subcommittee; Clinical Professor of Medicine, University of Colorado Health Sciences Center**
- **Edward Wojtys, M.D., Chief of Sports Medicine Service, Professor of Orthopaedic Surgery, University of Michigan School of Medicine**
- **Anthony Yates, M.D., FACP, Team Physician, Pittsburgh Steelers; President, NFL Physicians Society; Clinical Assistant Professor of Medicine, University of Pittsburgh School of Medicine; Co-Director, Corporate Health Program, University of Pittsburgh Medical Center**
- **John York, M.D., ex-officio member; Co-Chairman, San Francisco 49ers; Chairman, NFL Owners Committee on Health and Safety**

### **Injury and Safety Panel Medical Grants Subcommittee**

- **Russell Lonser, M.D., Head, Neck and Spine Research Grants**
- **Robert Vogel, M.D., Cardiovascular Disease Research Grants**
- **James Puffer, M.D., General Medical Grants; President and Chief Executive Office, American Board Of Family Medicine**
- **Kurt Spindler, M.D., Orthopedic and Musculoskeletal Research Grants**

### **Head, Neck and Spine Committee**

- **H. Hunt Batjer, M.D., FACS, Co-Chair, Head, Neck and Spine Committee; Lois C.A. and Darwin Smith Distinguished Chair in Neurological Surgery, University of Texas Southwestern Medical Center**
- **Richard G. Ellenbogen, M.D., FACS, Co-Chair, Head, Neck and Spine Committee; Professor and Chairman, Residency Director, Department of Neurological Surgery, Theodore S. Roberts Endowed Chair, University of Washington School of Medicine;**

- Co-Director, Seattle Sports and Spine Concussion Program**
- **Ronald Barnes**, Senior Vice President of Medical Services, Head Athletic Trainer, New York Giants
- **Ernest Bates, M.D.**, Neurosurgeon; Chairman and CEO, American Shared Hospital Services
- **Mitchel Berger, M.D.**, Chair, Subcommittee on Former Players and Long-Term Effects of Brain and Spine Injury; Professor and Chairman, Department of Neurological Surgery, Director, Brain Tumor Surgery Program, Director, Neurosurgical Research Centers, Brain Tumor Research Center, University of California, San Francisco
- **Bradley F. Boeve, M.D.**, Professor and Chair, Department of Neurology, Mayo Clinic
- **Kathleen Welsh-Bohmer, Ph.D.**, Professor, Department of Psychiatry and Behavioral Sciences Director, Bryan Alzheimer's Disease Research Center, Duke University
- **T. Pepper Burruss**, Head Athletic Trainer, Green Bay Packers
- **John A. Butman, M.D.**, Ph.D., Staff Clinician, Radiology and Imaging Sciences, National Institutes of Health Clinical Center
- **Randal P. Ching, Ph.D.**, Research Associate Professor and Director Applied Biomechanics Laboratory, Department of Mechanical Engineering, University of Washington
- **Ron Courson**, ATC, PT, NREMT-I, CSCS, Director of Sports Medicine, University of Georgia Athletic Association
- **Henry Feuer, M.D.**, FACS, Associate Professor of Neurosurgery, Indiana University School of Medicine; Indiana Spinal Cord and Brain Injury Research Fund Board; Team Neurosurgeon, Indianapolis Colts; Co-Medical Director of the Indiana Sports Concussion Network
- **Richard Gliklich, M.D.**, President, Quintiles Outcome, Inc.
- **Kevin Guskiewicz, Ph.D.**, ATC, Chair, Subcommittee on Equipment and Playing Rules; Kenan Distinguished Professor, Chairman, Department of Exercise and Sport Science, University of North Carolina at Chapel Hill
- **Robert Harbaugh, M.D.**, FACS, Chair, Subcommittee for the Development and Management of Prospective Database for NFL Players; Director, Penn State Institute of the Neurosciences; University Distinguished Professor and Chair, Department of Neurosurgery, Professor, Department of Engineering Science and Mechanics, Penn State Hershey Medical Center
- **Andrew Hecht, M.D.**, Surgical Spine Consultant, New York Jets; Co-Chief, Orthopaedic Spine Surgery, Assistant Professor of Orthopaedics and Neurosurgery, Mount Sinai Medical Center and School of Medicine
- **Stanley Herring, M.D.**, Chair, Subcommittee on Advocacy and Education; Team Physician, Seattle Seahawks; Clinical Professor of Rehabilitation Medicine, Orthopaedics and Sports Medicine, Neurological Surgery, Director, Sports, Spine and Orthopaedic Health, University of Washington School of Medicine; Co-Medical Director, Seattle Sports Concussion Program
- **Merril Hoge**, Former Player; ESPN Analyst
- **Joel Kramer, Psy.D.**, Clinical Professor of Neuropsychology in Neurology, Director of the Memory and Aging Center Neuropsychology Program, University of California San Francisco
- **Geoff Ling, M.D., Ph.D.**, Professor and Vice-Chair, Department of Neurology, Uniformed Services University of Health Sciences; Colonel, U.S. Army (ret.); Program Manager, Defense Advanced Research Projects Agency (DARPA)
- **Russell Lonser, M.D.**, Chair, Subcommittee on Brain and Spine Injury Research; Chief, Surgical Neurology Branch, Program Director, Neurological Surgery Residency Training Program, National Institute of Neurological Disorders and Stroke (NINDS)
- **Thom Mayer, M.D.**, Medical Director, Studer Group; Medical Director, NFL Players Association; Founder and CEO, BestPractices, Inc.
- **Bruce Miller, M.D.**, Associate Professor, Department of Orthopaedic Surgery, University of Michigan Medical School; Head Orthopaedic Team Physician, University of Michigan Football; Team Physician, USA Ski Team; Team Physician, USA Rugby Team; Program Director, University of Michigan Orthopaedic Sports Medicine Fellowship
- **Frank A. Pintar, Ph.D.**, Chief of Research, Department of Neurosurgery, Medical College of Wisconsin
- **Margot Putukian, M.D.**, Chair, Subcommittee on Return-to-Play Issues; Director of Athletic Medicine Services, Head Team Physician, Princeton University; Associate Clinical Professor, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey
- **Raul Radovitzky, Ph.D.**, Associate Director, MIT Institute for Soldier Nanotechnologies, Associate Professor, Department of Aeronautics and Astronautics, MIT
- **Daniel Resnick, M.D.**, Professor and Vice Chair, Department of Neurological Surgery, University of Wisconsin School of Medicine and Public Health.
- **Joseph Skiba**, Equipment Director, New York Giants; Member, NFL Injury and Safety Panel, Foot and Ankle Subcommittee
- **Erik E. Swartz, Ph.D.**, ATC, FNATA, Associate Professor of Athletic Training, Kinesiology Department, University of New Hampshire
- **Joseph F. Waeckerle, M.D.**, Clinical Professor of Emergency Medicine, University of Missouri, Kansas City School of Medicine; Editor Emeritus, *Annals of Emergency Medicine*
- **Robert Watkins, III, M.D.**, Spine Surgeon; Co-Director of the Marina Spine Clinic; Founding Member, North American Spine Society
- **Anthony Yates, M.D.**, FACP, Clinical Assistant Professor of Medicine, University of Pittsburgh School of Medicine; Co-Director, Corporate Health Program, University of Pittsburgh Medical Center; President,

NFL Physician Society; Team Physician, Pittsburgh Steelers

- **J. Christopher Zacko, M.D., M.S.,** Assistant Professor of Neurosurgery, Co-Director, Neurosciences ICU, Department of Neurosurgery, Penn State Hershey

The Head Neck and Spine Committee receives input from several independent consultants:

- **Robert C. Cantu, M.A., M.D., FACS,** FAANS, FACSM, Clinical Professor of Neurosurgery Boston University School of Medicine; Co-Director, Center for The Study of Traumatic Encephalopathy, Boston University Medical Center; Member/Co-Chair, Equipment and Rules Committee NFLPA Mackey/White TBI Committee; Co-Founder and Chairman, Medical Advisory Board, Sports Legacy Institute; Chairman, Department of Surgery, Chief, Neurosurgery Service, and Director, Service Sports Medicine; Emerson Hospital
- **Joseph Maroon, M.D., FACS,** Professor and Vice Chairman, Department of Neurological Surgery, University of Pittsburgh School of Medicine
- **David Meaney, Ph.D.,** Professor and Chair, Department of Bioengineering; Associate Director, Penn Center for Brain Injury and Repair, University of Pennsylvania
- **Barry Myers, M.D., Ph.D., MBA,** Professor of Biomedical Engineering with appointments in Orthopaedic Surgery, Anatomy and Business, Duke University; Director, Emerging Programs, Duke Translational Research Institute; Executive-in-Residence, Pappas Ventures
- **Gunter Siegmund, Ph.D., P.Eng,** President, Senior Engineer, MEA Forensic Engineers and Scientists; Adjunct Professor, School of Kinesiology, University of British Columbia

## Partners in Community Health

The following organizations have joined the NFL in educating athletes of all levels of play, and fans of all ages, on numerous public health and safety issues.



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